

REMARKS/ARGUMENTS

Reconsideration and withdrawal of all outstanding grounds of objection and /or rejection are respectfully requested in light of the above amendments and the remarks that follow.

The Examiner has suggested that the specification be formatted as outlined in 37 C.F.R. § 1.77(b). By this Amendment, applicant has inserted the appropriate headings at corresponding locations in the specification.

The Examiner has rejected claims 1, 11, 13, 15 and 21 under 35 U.S.C. § 112, second paragraph, as indefinite for the reasons stated on page 3 of the Official Action. In each of claims 1, 11, 13 and 15, the language objected to by the Examiner has been deleted. With respect to claim 21, that claim has been canceled.

The Examiner has rejected claims 1-3 and 21 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,596,501 to Wu. The Examiner has also rejected claims 1-3, 14-17, and 21 under 35 U.S.C. § 102(b) as anticipated by EP 0992310 to Lowe and claims 1-5, 7-10, 15-17, 20 and 21 as anticipated by U.S. Patent No. 5,438,755 to Giberson.

Applicant has amended independent claim 1 to require working of the disc in first and second radial directions. Specifically, the claim requires that the disk be worked in a first radial direction by at least one tool of a numerical control machine to produce partial radial cavities in the rotor, and then working each disk in a second radial direction by at least one other tool of a numerical control machine to thereby produce completed radial cavities.

Of the three references noted above, only Giberson discloses the application of tooling from two different radial directions. In this regard, note that the limitations added to claim 1 are similar to the limitations contained in original claim 4 but slightly broader, and that claim 4 was rejected as anticipated only by the Giberson patent.

In Giberson, however, the tool that forms an inner portion of the passageways from the eye of the rotor does not complete the passage way. More specifically, after penetration from two directions, i.e., from the outside diameter of the impeller and from the eye of the impeller, and as specifically disclosed in column 3, beginning at line 52

A hole is then made through the central section which is to be the passageway, either by drilling, as indicated in Fig. 3, or by milling or electrode-discharge machining, or use of a small remotely driven rotating tool held in a curved tool holder as illustrated in Fig. 7, or some combination of those methods. In the preferred embodiment, it is made by drilling. After the hole has been made completely through from the perimeter to the eye, the remainder of the material in the passageway is removed by a three dimensional planning effect either using one or more reciprocating tools.


Thus, Giberson neither discloses nor suggests the method as required by independent claim 1 as amended herewith, where the passageways are substantially completed in only two steps (excluding any finish machining). The Section 103 rejections applied against claims 6, 11, 12 and 18-20 as set forth on pages 6 and 7 of the Office Action have been rendered moot in light of the amendments to independent claim 1 as discussed above. None of the other prior art references disclose or suggest the two step passageway forming process described in independent claim 1.

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The application is now in condition for immediate allowance and early passage to issue is requested. In the event, however, any small matters remain outstanding, the Examiner is encouraged to telephone the undersigned so that the prosecution of this application can be expeditiously concluded.

Respectfully submitted,

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